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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,510	12/03/2003	Kaishi Ohashi	02975.000120	5015

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EXAMINER

DOUGHERTY, THOMAS M

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/725,510	Applicant(s) OHASHI ET AL.	
	Examiner Thomas M. Dougherty	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/03/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/03/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1203, 204</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 notes that the vibration amplification portions are arranged at positions of concentric circles with respect to the center of the base portion. However in every embodiment shown there is only a single circle of these amplification portions. It is not clear then what this describes.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Mukohjima et al. (US 5,892,317). Mukohjima et al. show (e.g. fig. 2) a vibration type driving apparatus comprising: a vibration body (2, 2A) which generates vibration by supplying a driving signal to an electro-mechanical energy converting

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element (1); and a contact body (3) which contacts the vibration body (2, 2A) and is driven by the vibration received from the vibration body (2, 2A), wherein the vibration body comprises a base portion (2) having the electro-mechanical energy converting element and a plurality of vibration amplification portions (2A) for amplifying vibration generated at the base portion (2), and the neighboring vibration amplification portions of the plurality of vibration amplification portions (2A) are connected in the driving direction (by base portion) of the contact body.

Vibration at the base portion (2) is vibration which displaces some of the plurality of vibration amplification positions in a different direction (see esp. fig. 2) of the contact body (3), and the plurality of vibration amplification portions (2A) are connected so as to transmit the displacement of the vibration amplification portion (2A) at the base portion (2).

Vibration at the base portion (2) appears as a wave along a line passing through the center of a plane substantially parallel to the driving plane of the contact body (3), and the plurality of vibration amplification portions (2A) are connected (at base) so as to transmit the displacement of the vibration amplification portion (2A) by vibration at the base portion (2).

Vibration at the base portion (2) is a traveling wave (figs. 10-12 show traveling wave direction). Note that how it is generated e.g. by the claimed combining a plurality of standing waves which are generated in such a way that a node is formed at the same position, is regarded as a goal of the invention. As Mukohjima et al. show the claimed structural features this is regarded as being inherently met. Furthermore, this recitation is drawn to a method of using the

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claimed device for the purpose of getting the traveling wave but it does not provide for any more evident structure.

Again as Mukohjima et al. show the claimed structure, their vibration generated at the vibrating body is regarded as a primary traveling wave.

The vibration amplification portion (2A) is located a position that satisfies a relationship on the base portion: $Z(r) \times dZ(r)/dr$ is greater than or equal to 0 where r is a distance from the center of the base portion to the vibration amplification portion and $Z(r)$ is an amount of displacement of the base portion (2) in a direction perpendicular to a contact plane between the vibration body (2, 2A) and contact body (3). Note that as the claimed structural features are shown by Mukohjima et al. the cited differential inequality is likewise met.

The plurality of vibration amplification portions (2A) are arranged at a position within a range of $\frac{1}{4}$ wavelength from the center of the base portion outward with respect to the node of the standing wave. Note that this is a goal of the invention, note also that Mukohjima's et al. show vibration in their figure 2 which, which shows a wave similar to the applicant's figure 8, where three projections (2A) are shown in a half-wave length.

As best understood, claim 8 is rejected as Mukohjima et al. show their plurality of vibration amplification portions (2A) at a position of a concentric circle with respect to the center of the base portion.

The plurality of vibration amplification portions (2A) are fixed to a fixed portion (2) formed integral with the vibration amplification portions (2A).

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The plurality of vibration amplification portions (2A) are formed as a single piece.

The base portion (2) is structured in such a way that rigidity of the area located in the antinode of the standing wave is smaller than rigidity of other areas. Note that this is true because the same columnar shape and base portion which the applicant claims is shown by Mukohjima et al.

The base portion may consist only of an electro-mechanical energy converting element (1). Note that this is an arbitrary designation in this instance and thus the amplification portion consists of 2 and 2A.

Conclusion

The applicants' claims do not make clear that the neighboring vibration amplification portions are connected at their top parts where they drive the contact member, which is a position opposite the base, at which they are also connected.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

tmd
tmd

August 29, 2005

Thomas M. Dougherty
TOM DOUGHERTY
PRIMARY EXAMINER